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HOUSE CLEANING *Management and Methods*

FARMERS' BULLETIN No. 1834
U. S. DEPARTMENT OF AGRICULTURE

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This bulletin is a revision of and supersedes Farmers' Bulletin 1180, Housecleaning Made Easier

House Cleaning Management and Methods

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Every homemaker has a standard of cleanliness for her home. She may not be conscious of her standard, but if it is high she feels uncomfortable when her house is disordered or dirty. The pressure of preparing meals, doing the laundry, caring for children, or working at personal or professional interests outside the home may make it impossible to keep her home up to the standard she wishes to attain. Sometimes working out a definite but flexible plan and checking on methods and equipment makes cleaning easier and simpler.

Planning a Cleaning Schedule

Cleaning is the removal of dirt from the paint, varnish, fabric, enamel, glass, metal, and other surfaces in the home.

Dirt has been described as matter out of place. Just as weeds in a garden are plants out of place which may eventually choke out flowers and vegetables, so dust from the earth, soot, and oily smoke, which filter into the house or come from heating and cooking equipment, may eventually ruin the hardest surfaces.

A thin film of dirt is easily and quickly removed. If it is permitted to accumulate, it cakes and hardens. Surfaces then may be damaged by the more drastic measures that are necessary to clean them. Many surfaces require only brushing or light treatment with soap and water if they are cleaned frequently; but if they are neglected until abrasives must be used to grind off the dirt on painted or varnished surfaces and the corrosion on metals, the surfaces are permanently affected and the job becomes difficult, time-consuming, and fatiguing. The economic value of frequent, light cleaning is important because it reduces the cost of refinishing and replacements.

Keeping out dirt

The management of household cleaning revolves around prevention of the accumulation of dirt. It includes plans for keeping as much of it as possible out and for systematic and frequent removal of what inevitably gets into the house.

In rural sections and small towns, where roads are not hard surfaced, homemakers will find it to their advantage to urge that they be oiled or regularly sprinkled wherever it is possible to obtain this service. Smoke- and dirt-abatement campaigns in cities are making some progress; greater emphasis upon this phase of community life would cut down on house-cleaning labor and costs.

Walks should lead to the doors most used in farm homes, as they usually do in small town and city homes. Mats at outer doors help to prevent tracking dirt into the house. Daily sweeping of walks and porches takes less time in the end than cleaning up dirt after it has been tracked in, and saves wear on rugs

and floors. If dirty or muddy clothes can be removed in an entrance hall or vestibule, much cleaning may be avoided.

Frequent brushing of outside window sills and the use of cloth-covered screens in windows that are open continually in pantries or halls help to keep out dirt. In some localities, covered screens may be used in windows at night to filter out both dirt and dampness.

Removing dirt systematically

Even more important than measures for keeping dirt out of the house are plans for its systematic removal. The easiest way to manage house cleaning is to schedule all the cleaning on a year-round basis. Letting many things go until there is need for a semiannual upheaval is uncomfortable for the entire family, extremely fatiguing for the homemaker, and an outmoded way of keeping house.

While every woman has some sort of routine for her day's work, few have taken the time to write down the jobs to be done and made a plan for distributing them through each week and month. Planning a work schedule takes much less time in the end than trying to work without one. Like budgeting the family income, a perfect time budget for house cleaning cannot be developed all at once. It grows out of experience and practice. But just as no seed produces vegetation until it is planted, so no systematic work schedule grows out of thin air. It requires thought, planning, and readjustment to meet varying situations. Once it is launched, house cleaning becomes more interesting. A cleaning schedule is a guide to freedom, not a chain to drudgery.

While the work schedule is being devised, every member of the household who is at home all day, even the young children, may be invited to participate. It then becomes a game of family cooperation in which each may choose the part best suited to the individual's tastes and capacities. Children like promotions. They may be induced to take responsibility for small tasks every day, such as cleaning toilet basins after using them, hanging up their own clothes, making their beds, cleaning the bathroom, or sweeping the walks, if they know they may be promoted later to other things they may prefer to do. When children help with the work they are more likely to realize how keeping dirt out of the house lightens daily duties.

Where there is paid help in the home, a cleaning schedule helps the work to run more smoothly and induces harmony in the relationship between the homemaker and her assistants. Employees should be shown a schedule of what they are expected to do when they are hired, in order that there may be no later misunderstandings. If the employee knows what is expected of her each day or week, and if the more fatiguing work is distributed through the week or month, she is likely to work more efficiently and happily. It is well to remember that household employees are human, that perfection is more often an ideal than a fact, and that they cannot do good work if too much is expected of them during each day.

Drawing up a work schedule

The first step in drawing up a work schedule is to list all the cleaning jobs that must be done about the house. These are then grouped under headings of work to be done daily, weekly, monthly, semiannually, and annually. The fundamental fact on which the schedule is based is that frequent light cleaning is the most economical of time, energy, cleaning supplies, and household surfaces.

Each homemaker's schedule must be adapted to her particular household and the dirt-producing conditions of her locality. In households where the laundry and cooking are done by the homemaker, her cleaning schedule must mesh with these daily and weekly tasks; for example, if Monday is washday, only light dusting of the home should be planned. In cities, where smoke and dirt accumu-

late on walls and wood trim more quickly than in the country, more frequent dusting and washing of surfaces is necessary. The following suggestions for a high standard of cleaning efficiency may serve as a point of departure in preparing a plan which suits the particular homemaker's general scheme of living. Some of the daily duties will be omitted where dirt-producing conditions are not extreme or where other duties require considerable time. Cleaning efficiency should endeavor to strike a happy medium between the expenditure of time and energy and the results obtained.

Daily.—Sweep walks and porches; dust furniture, wood floors; brush upholstered furniture; clean rugs; wash bathroom toilet fixtures and floor. Clean sinks and fittings, and stove surfaces after each use.

Weekly.—More thorough cleaning, moving of each piece of furniture that has not been moved during the daily dusting and cleaning behind it; dust radiators, baseboards, door and window woodwork, pictures, mirrors, lighting fixtures and bulbs, closets; brush outside window sills and venetian blinds; wash all the metal on bathroom fixtures; clean stove, burners, oven, refrigerator; polish silver and other metals.

Monthly.—There are two possible procedures that make semiannual house cleaning unnecessary and spread the work throughout the year. The first is to do one or more of the following in several rooms on the same day: Brush window shades or venetian blinds, or wipe blinds; brush curtains, draperies, walls and wood trim, or wash them if necessary; wipe pictures; wipe or wash windows; clean box springs and mattress; clean under side of rug and floor beneath it; clean closets and drawers; polish wood furniture; clean upholstered furniture where soiled. Use of the same tools and routines in several rooms at stated intervals will insure doing the same amount of cleaning in a year and may take less time than the second procedure.

The second procedure is to thoroughly clean one room at a time, including the basement and storeroom in the schedule, by adapting the things listed above to each room's requirements.

In addition, each month the carpet sweeper should be oiled. Other equipment should also be oiled if the manufacturer so directs. Where directions have been lost, ask the manufacturer or local dealer for them and write them into the schedule.

Semiannually.—Have household appliances checked and reconditioned where necessary; wash mattress covers; clean draperies.

Annually.—Furnace cleaned and reconditioned in early summer; if needed, have water heater drained and cleaned; catch basin cleaned; furniture washed and waxed; rugs washed.

One month during the year should be free of any special cleaning, so the homemaker may have a holiday from routine even if the family does not go away on an annual vacation.

Household notebook

One of the easiest ways to record the work schedule is in an alphabetically arranged household notebook, where also may be kept the addresses and telephone numbers of those who supply goods and services, an inventory of things stored in boxes and trunks, and bits of information on management and methods gleaned from magazines and books. Additional information to be entered in the notebook may be jotted on small slips of paper and put in a pocket on the back cover until a convenient time for recording them is at hand.

Conserving Time and Energy

After the work schedule is in operation, the homemaker may turn her attention to reducing time and energy required for cleaning. Studies have disclosed that oftentimes cleaning is the most disliked household work, due probably to several causes. Cleaning is fatiguing. It often is done without adequate tools or the knowledge of better and easier methods. A job performed haphazardly is both tiring and uninteresting.

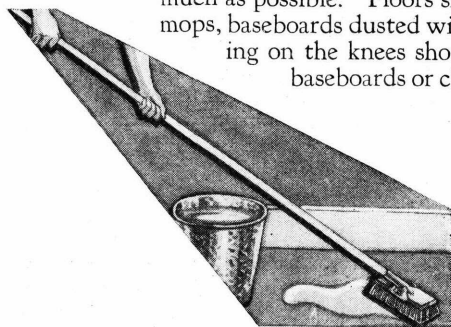
Modern equipment—systematic methods

Orderliness in the household and in working plans are fatigue-reducers in themselves. There is no need to worry about the many things that must be done when one knows that each will receive attention according to a systematic and flexible plan. With modern equipment and systematic methods, fatigue is reduced and there is greater satisfaction in the performance of cleaning tasks. Thoughtfully planned arrangements of storage places with articles located nearest the place of use makes house cleaning easier, quicker, and more orderly. If the children are trained to take care of their personal possessions and share in the responsibilities of the household, work, worry, and friction are lifted from the homemaker.

Habits of work are not always easy to change, but if a homemaker really wishes to make her work lighter, she will find compensation in a gradual readjustment to better methods. Experience has shown that the best method for doing a job not only produces the best results but also is most economical of time and energy. Hence she may find it fruitful to ask herself, "How do I do this task?" Then she may observe the motions she goes through in doing a particular job and experiment with ways to reduce their number; watch the number of steps she takes and avoid retracing them as much as possible; combine parts of a job, such as rearranging furniture while dusting it; select and arrange her equipment with the thought of saving time and energy through its use. The savings may be only in minutes on a specific task, but the total may provide a rest period during the day or more leisure for enjoyment of the family and personal activities.

It takes less time and energy to continue one cleaning process as long as possible, such as dusting the rooms on one floor, then cleaning the rugs. Dropping one tool frequently to pick up another causes some nervous readjustment. For this reason, too, it is best to complete one job and put the tools away before taking up another household task. Where there are very young children it often is difficult to avoid interruptions and distractions, but careful planning helps to relieve even this problem.

Stooping and bending are tiring. Hence long-handled tools should be used as much as possible. Floors should be wiped with long-handled mops, baseboards dusted with a long-handled brush, and working on the knees should be only a last resort to wash baseboards or clean a dirty corner.



A long-handled scrub brush saves the knees.

Selection and Care of Cleaning Equipment

In general, well-selected, good-quality tools pay for their extra cost in their efficiency and in the time and energy they save. They are more economical in the end because they do not have to be replaced so often. It is equally true that moderately good tools well cared for will give longer service than the best that are carelessly handled.

With such a wide variety of cleaning equipment on the market, there may be a temptation to buy more than is actually needed. It is well to consider not only the cost of a tool in relation to how durable and useful it is, but also whether it is adaptable to several kinds of work. The problem of storage is simplified, and cleaning is less burdensome, if only a few pieces of equipment must be carried from room to room.

Before buying equipment, and especially before selecting expensive tools, it is well to answer such questions as: Will this be used enough to justify the cost? Will it really save time and energy? How many kinds of jobs will it do? How much care in cleaning and storing will it require?

Brooms Brooms come in various weights and sizes, and are made of fibers that differ also in kind and quantity. A broom that suits the purpose does a better cleaning job.

Fiber brooms cost more than those of broomcorn, but last several times as long and are more satisfactory to use. They do not flip up the dust during sweeping, and they wear down more evenly. Water preserves them, while it deteriorates broomcorn. They have been found especially useful on farms in scrubbing dairies and other buildings.

Chinese palm is one of the best, cheapest, and most durable of the fibers used for brooms. It is grown in water and therefore water helps to preserve it. The fibers in brooms of this type are always set in a metal jacket, which is attached to the handle. The metal binder or rows of stitching below the jacket may be removed as the broom wears down and so lengthen its period of usefulness. Some fiber brooms have a rubber or leather jacket over the metal jacket; these protect furniture but make the broom somewhat heavier to handle. Fiber brooms come in several weights and fiber lengths, the lighter weight being the most satisfactory for housework; the longer fibers make the longest-wearing brooms. The better brooms have maple handles, shellacked, varnished, or enameled. Pine is satisfactory on the cheaper ones, but birch handles are to be avoided because they break more easily.

Dipping fiber brooms in water once a week and hanging them up immediately keeps them in good condition and increases their durability. They should never be stored resting on the fiber end. Either hang them or rest them on the end of the handle.

Broomcorn brooms of satisfactory quality have a mixture of curly and rough fibers. Curly broomcorn curls even more when wet, and the ends of broomcorn fibers are often split. A good broom has comparatively few split ends and these splits should be short. The stitching cannot be removed as the broom wears down because the fibers will flare. Handles should be smooth finished, and the broom should be sturdy but light in weight. When stored these brooms like others should be hung or rested on the end of the handle.

Tampico fiber brooms have about 4 inches of these tough vegetable fibers extending from a hardwood block. They are more efficient and durable than the broomcorn type, but more expensive than either palm fiber or broomcorn.

Brushes

Brushes tend to gather and hold dust instead of scattering it, and for this reason are especially useful in cleaning. The types to be selected depend upon the household furnishings.

Where there are no walks or rugs to be swept, homemakers may prefer floor brushes to brooms because they gather up the fine dust from smooth-finished surfaces more efficiently. A wall brush is essential in every home for dusting walls, ceilings, curtains, and draperies. For cleaning a toilet bowl, a brush is more sanitary than a cloth. For upholstered furniture and lamp shades, a well-chosen brush is better than a whisk broom. A separate brush is needed for stairs, baseboards, and window sills. It is difficult if not impossible to clean radiators without a good brush made for this purpose. Some radiator brushes are also adapted to dusting carved furniture and decorative iron work. Households usually need a scrub brush.

In selecting brushes it is well to examine as many types and qualities as possible, in order to understand quality differences and find the brushes best adapted to the household's furnishings. Brushes are made of pig and boar bristles, horse and goat hair, and palmetto, palmyra, or Tampico fibers. The bristle brushes are the most durable, and most satisfactory where a stiffer brush is desirable. Hair is softer. Vegetable fibers are stiffer and coarser than either of the others. Although palmetto, naturally brown in color, is the most durable, the majority of fiber brushes are made of the softer Tampico fiber. Vegetable fibers sometimes are mixed with hair in some types of the less expensive brushes in order to keep the price down, but do not hold dust as well as hair or bristles. The bristles, hair, or fiber of the brush may be stapled or cemented in wood or twisted in wire. When wire is used, it should be rustless galvanized steel, with the twists close together so the stock will be full; the wire used in some brushes will rust.

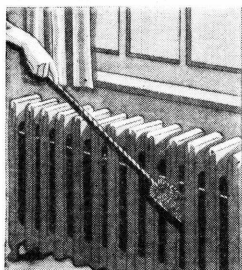
Price alone is little guide to the quality of a brush because some methods of marketing are much more expensive than others and are reflected in the price to consumers.

A few simple principles should be followed in the care of brushes. All of them should be washed frequently enough to keep them clean, using warm water and soap, rinsing thoroughly in clear water, and shaking to straighten the bristles or fibers. Brushes twisted in wire should be hung to dry; those set in wood blocks should be dried with the bristle side down so water will not soak into the wood; and all brushes should be hung on hooks when not in use.

Floor brushes of the best quality for household use are made of grade A horsehair, with full tufts stapled firmly in a hardwood block. Sizes for household use have blocks 12, 14, 16, and 18 inches long and about 3 inches in width. In most brushes the handle can be changed from one side of the block to the other each week so the hair will wear down evenly.

Wall brushes of the best quality are made of soft, white hair from the side or beard of the goat, twisted in rustless galvanized wire. Hair from under the goat's body is used in a lower-grade brush. Wall brushes should be very full and fluffy. Those with a handle set in a flexible spring socket will lie close against the wall. Some of the less expensive wall brushes are made of horsehair. These are efficient in cleaning walls but are stiffer and may snag delicate draperies.

Wall dusters made of wool fleece do satisfactory cleaning when new, but they soil quickly. It is very difficult to keep them from matting when they are washed, and they may soon become so hard surfaced that they will smear the walls, unless they are cleansed with a dry-cleaning fluid rather than soap and water.



Radiator brushes having the greatest usefulness are long-handled, cylindrical in shape, and made of bristles twisted in rustless wire. Those tapered toward the end get into the corners with less manipulation; those with flared ends are somewhat more expensive. Another type has a narrow, flat wood back into which hair about $2\frac{1}{2}$ inches long is set. It is less adaptable to a variety of uses than cylindrical brushes, requires more manipulation, is less efficient in cleaning some types of radiators, but is durable.

Upholstery brushes are made with bristles or hair. There are many shapes and sizes with varying degrees of firmness in the stock. Where upholstery fabrics are not too delicate, a bristle brush is desirable. Silk lamp shades and upholstery fabrics require a soft brush. Some are twisted in wire in the shape of a large clothes brush, or are cylindrical and tapered to be used also on carved furniture. Others of various shapes, such as counter brushes, have bristles or hair set in wood. The counter brush type with a long handle is most useful for brushing stairs, window sills, and baseboards.

Venetian-blind brushes of the best quality are made of gray or white goat hair twisted in rustless wire. They come with two to five prongs, so that more than one slat may be dusted at a time; the three-prong are the most popular. The stock should be very full or the brush will not dust well.

Toilet-bowl brushes that are easiest to keep sanitary are made of stiff bristles or of Tampico fibers twisted in rustless wire, in either circle or ball shapes. The bristle brushes are more expensive but do not drip after the water is shaken out. Although Tampico fiber mats down much sooner than hair, these brushes are cheap to replace. Some types of cement used to fasten the wires into the handle give off odors. Handles should always be enameled to make them less absorbent of water. A toilet-bowl brush also is made with the bristles or fibers fastened around a wood ball, but wood absorbs water and is more difficult to keep sanitary.

Scrub brushes usually are made of Tampico fiber and are inexpensive. More durable brushes are made of palmetto fibers, but the homemaker may find it more sanitary to use the Tampico fiber brushes and replace them when the fibers soften and mat. Scrub brushes with long handles, which do away with the necessity for getting down on the knees, are the most desirable. If the type without a handle is selected, it is well to get one that feels comfortable in the hand.

Polishing brushes for use on waxed floors are of two types, the electric and the hand-operated. Both have stiff vegetable fiber stock for polishing. One of the least expensive electrically operated types has a brush-covered drum. Others have one circular brush which whirls flat on the floor, or two circular brushes revolving in opposite directions. Those with two brushes are more expensive but are considered the most efficient. Some electric machines have a device for applying the wax, either by dripping it from a container or forcing it out with an electric pump. Those with a pump require care to keep the pump from sticking. Two sets of brushes are supplied with those that apply wax, one for spreading it and one for polishing. The durability of electric polishers depends upon the motor.

Hand-polishing brushes have fibers set in heavy blocks weighing about 5 to 15 pounds. The handle is hinged so it may be swung more easily. These require considerable strength to operate but are very inexpensive in comparison with electric polishing machines.

Wax applicators may be cotton yarns twisted in wire or lamb's wool which can be detached from a block for cleaning. The latter absorb less wax. The wool will stay soft longer if it is washed with dry-cleaning fluid. Both types come with long handles.

Mops Mops should be washed in suds as often as necessary to keep them clean and sanitary, then rinsed and dried in the sun. Dry mops, including those of the "dustless" type, require washing. Mops should be hung by the handle when not in use.

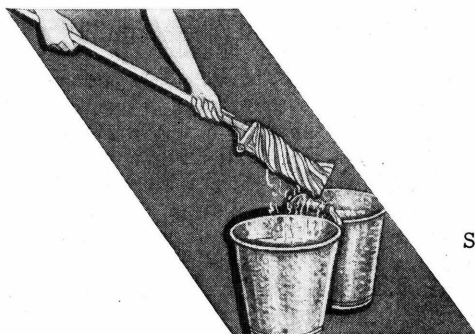
Wet mops come in a variety of styles. The cheapest, called yatch mops, have yarns wired around a handle. Some are devised so they may be wrung without putting the hands in water. Others have yarns held in a clamp. The more durable and satisfactory mops are made of four or more ply yarns of long-staple cotton, and are lintless. They should be very absorbent. If stray ends of yarn are kept trimmed, baseboards are not so easily splashed.

Dry mops also are made in a variety of styles and shapes. Satisfactory ones have long-staple four-ply cotton yarn twisted in rustless wire. These are easier to clean than those with the yarns attached to a collar that slips over an iron frame, unless the mop can be removed for washing. Some have a spring to facilitate dusting and shaking. Triangular mops are popular because they cover as large a floor space as the oval mops and are easier to push into corners. Dry mops should be full and soft, with all metal protected by lamb's wool bumpers, rubber sockets, or other devices to keep it from scratching the floor. Some dry mops are impregnated with oil to make them "dustless"; they get dirty quickly and require frequent washing, which gradually takes out the oil.

Dusters Dusters may be made from clothing or household fabrics. Pieces of fine, soft wool make the most satisfactory dusting cloths; next in usefulness are soft cotton, especially knitted materials, or cheesecloth, and linen. Silk and rayon do not hold the dust well, nor are they as satisfactory for other types of cleaning as soft woolen, cotton, and linen fabrics.

Chamois Chamois is excellent for washing windows because it cleans and polishes at the same time. It is made of sheepskin, oil tanned. French chamois costs more than domestic of a like quality and size, but is heavier and more durable. The quality of chamois can be judged by the elasticity. Those having the most stretch wear best and stay soft longest. The best are of even thickness throughout and lintless. They may be obtained in several sizes, the large being more satisfactory for washing windows.

Chamois should be washed in lukewarm suds, rinsed thoroughly, squeezed until as much moisture as possible is removed, and dried in the shade. Gentle pulling after drying will make it soft again.



Self-wringing mop with twin pails, one for soapy and one for clear water.

Sponges

Sponges are better than cloths for washing walls, woodwork, and upholstery. Natural sponges, the most satisfactory type for house cleaning, are a marine fiber and are available in many grades and sizes. Those called sheep's-wool sponges are the best quality for household use, and next in desirability are velvet and yellow sponges. It is cheaper and more satisfactory to buy two small sponges than to buy one large one and cut it. Like chamois, sponges should be washed in lukewarm suds, thoroughly rinsed, as much moisture as possible squeezed out, and dried in the shade. A heavy thread or string run through sponges and tied at the ends makes it possible to hang them on hooks when drying or storing.

Artificial sponges (regenerated cellulose) are also used for cleaning purposes, but are more expensive than natural sponges.

Dustpans

Dustpans with long handles that eliminate stooping are the most desirable. They should be made of metal heavy enough to prevent easy denting, and with a pan high enough in the back to hold the dirt when the front edge tilts upward in carrying. The edge should come in direct contact with the floor throughout the entire length of the pan.

Pails

It is desirable to have two pails for use in cleaning, one for water with soap and the other with clear water for rinsing. Small twin pails fastened together at the handle are the most convenient because both may be carried in one hand or set together on a stepladder. Galvanized-iron pails are the most durable, but fiber pails are lighter and cheaper.

A vacuum cleaner is one of the most useful household tools because it removes dust and litter without scattering them. It also is one of the most difficult pieces of equipment to select because it is a complicated piece of machinery.

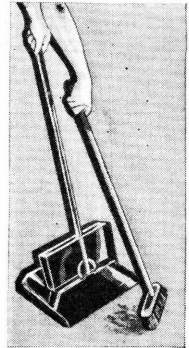
Vacuum cleaners

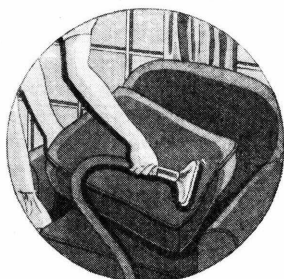
Differences in manufacturing efficiency and marketing practices result in a wide range of prices that may have only an indirect relation to the value of the cleaner. No one factor, such as suction or motor speed, should be used as a basis for selection.

In general the efficiency of a vacuum cleaner may be judged by its ability to remove the most dirt with the least expenditure of the operator's time and energy. The dirt that gets into rugs varies in different parts of the country, but usually is a combination of dust, larger gritty particles like sand, oil, and rubber left on pavements by automobiles and tracked into the house, and soot and oil from heating and cooking equipment. The heavier particles sink into the pile tufts. As the rug is walked on the sharp gritty particles cut the rug fibers and when the rug is cleaned the loosened fibers are sucked into the cleaner bag. Few if any cleaners remove firmly bound nap from floor coverings. The dirt in a rug may contain as much as 4 percent or more of oily matter, which binds the dust particles together and makes them more difficult to dislodge. An efficient vacuum cleaner should remove these deep-seated particles as well as surface litter and dust.

Suction, sweeping, and agitation are employed in the various types of vacuum cleaners to remove dirt. The straight-air cleaner depends largely on suction for dirt removal. The motor-driven brush machine uses suction plus sweeping and agitation, and because of the other factors the suction may be considerably lower than that used by the straight-air cleaner.

The suction of the cleaner depends upon the design of the fan as well as the speed with which it is driven by the motor. A well designed fan will produce





sufficient suction with a lower motor speed. The motor determines durability more than any other part of the machine. A good heavy motor is likely to wear longer than a similarly designed lighter one.

"Junior" cleaners, which are about half the size of the standard household machines, are lighter to handle but have much less cleaning power. There are also small hand cleaners for use on stairs and upholstery. Attachments may be bought with the large cleaners for about the same price as the small cleaners, and they are adapted to use on many

surfaces such as upholstery, curtains, high moldings, and walls.

Good cleaners that need only a thorough renovating often are turned in for credit on new ones. It is wise before trading in an old cleaner to have it inspected by a competent repair man and be certain that it cannot be put into satisfactory condition for a nominal sum. In buying a reconditioned cleaner as an original purchase, however, it may or may not be worth the price asked. Though the original manufacturer may put it into the condition in which it was first sold, it is important to know whether the model includes desirable improvements.

The care given a cleaner greatly affects its efficiency and durability. Four points in particular need to be remembered: care of the bag; adjustment of the nozzle and brush; protection of the fan; oiling of the motor.

The bag acts as a filter, catching the dirt and letting out the air that is drawn through the nozzle by the fan. For a cleaner to be efficient the bag must be kept clean. No matter how hard the motor and fan work to create suction, they can produce only the flow of air that can escape through the bag. Dust clogs the pores of the bag and it should be emptied after each use and shaken vigorously to dislodge this oily deposit. Periodically the bag needs to be turned inside out and brushed thoroughly but carefully so as not to injure the fabric. Some manufacturers recommend a semiannual dry cleaning.

If the lips of the nozzle are not adjusted to the proper height above the surface of the nap on the rug, the cleaner cannot do a good job. Some of the newer types have automatically adjusting nozzles; others require that the operator turn an adjustment screw. The proper adjustment may be judged by placing a dime on the rug about a foot from the nozzle and adjusting the height until the dime dances and moves toward the nozzle.

Brushes should be kept free from hair and threads. They wear down in time and need readjustment. Most cleaners provide for several adjustments of the brush. The bristles should extend to approximately one thirty-second of an inch below the lips of the nozzle. They may be checked by placing a ruler or other flat object across the nozzle.

The fan may be thrown off balance or nicked and the belt that drives it may be cut if metal objects, such as pins, nails, and coins are drawn into the cleaner. These should always be picked up by hand.

The motor should be kept clean and oiled according to the manufacturers' directions. For some cleaners this may be done at home; for others it is advisable to send them to experts every 6 months to have the mechanism checked and oiled where necessary.

Nonelectric vacuum cleaners resemble the electric type in appearance, except that there is no motor. The revolving brush in the nozzle and the fan are operated by the action of the wheels as the cleaner is pushed across the floor covering. The dirt is drawn into a bag similar to that of electric cleaners. It combines

some of the suction of an electric cleaner with the sweeping action of a carpet sweeper, and its cost lies between the two.

Carpet sweepers Carpet sweepers are useful in sweeping the dust and litter from floor coverings. They have been described as a broom on wheels with its own dustpan. Some are made to adjust automatically to carpet pile of various heights with a minimum of pressure. Good Chinese bristles should be used for the brush and the sweeper should be easy to push. Rubber bumpers around the case save the furniture. Some have pans that empty by pressing a lever; in others, the handle is placed on the floor, the top lifted, and a pan taken out for emptying, which requires more time. There are cases in modern design, although the best mechanism is also used in the more traditional type of case at a somewhat lower cost.

Unless the sweeper is emptied after each use, lint and dust will, of course, drop back on the rug as the sweeper is operated. Unless the brush is kept clean, its efficiency is seriously impaired and the sweeper is harder to push. To remove string, hair, and ravelings without injuring the brush, it is better to clip them first with scissors. The brush should be wiped occasionally with a dry-cleaning fluid when it gets sticky from oil in the dust or wax on floors. The sweeper should be oiled regularly each month.

Carpet beaters The beating of carpets and rugs is not recommended because it loosens the pile tufts and may injure the backing of the rug. However, in homes without vacuum cleaners where it is impossible to send floor coverings to a good cleaner once a year, it may be necessary to use a beater. Those made of rattan are less injurious to rugs than wire beaters. Rugs should be placed nap down on grass or snow, but should never be beaten while hung over a clothesline.

Selection of Cleaning Supplies

Water, soap, alkalis, acids, abrasives, waxes, and a few other substances are needed in addition to tools to keep surfaces in the home free from dirt and to preserve finishes.

It is convenient to have a basket or box with a handle, large enough to hold the brushes, dust cloths, sponges, and supplies that must be carried from one room to another. Running back and forth for tools and supplies is tiring, annoying, and wasteful of time. In some houses an additional supply of some of the materials used most frequently may be stored on the second floor.

Water Water, especially warm water, is a good cleansing agent. When it is uncomfortably hot to the hands it is likely to injure the finishes on which it is used. Although it loosens dirt it should always be used sparingly and wiped off at once. It should never be allowed to stand on floors, walls, furniture, or wood trim, nor soak into seams and cracks.

The degree of hardness in water varies with each water source. Certain minerals make water "hard" and react with soap, forming a scum or film of insoluble lime soaps. It is very difficult to rinse this scum from fabrics, and hard surfaces need to be rinsed and rubbed to get it off. It is not so necessary, however, to soften water for scrubbing and washing hard surfaces as for cleansing fabrics. An abundant water supply piped through the house, with a good drainage system to carry away the waste, is of first importance in making house cleaning easier.

Soap

Soap emulsifies the oil and grease that make dirt cling to fabrics and finished surfaces, and helps to carry it away.

There are in general two types of soap. One is the mild, neutral type used for toilet purposes and on fine fabrics. The other contains varying proportions of alkaline salts to produce a better suds in hard water and to aid in the cleansing action. The latter type is commonly used for laundry and dishwashing.

Most surfaces in the home should be washed only with mild, neutral soap. Soaps containing free alkali or large amounts of alkaline salts may be even more injurious to linoleum, paint, varnish, and lacquer than they are to the skin. Ordinary laundry soap and home-made soaps often contain sufficient free alkali to make their continued use on hard surfaces inadvisable. If more drastic cleaning action is needed than neutral soap and water alone supply, it is safer to add a small quantity of one of the alkaline salts, which also have value as cleansing agents.

In hard-water localities, it may be advisable to use one of the sulfated fatty alcohols in place of soap, or a hexametaphosphate or tetrasodiumpyrophosphate detergent mixture (sold under brand names) with soap for washing upholstery and rugs, although they are more expensive than mild, neutral soap alone.

Alkalies

Many of the alkali cleaning materials are less expensive when bought as such in bulk.

Trisodium phosphate is a moderately strong alkaline salt and one of the most effective in cleansing action. It is seldom sold by its chemical name, so it is well to ask grocers who carry cleansing agents to find out which contains trisodium phosphate. When bought in drug stores or chemical supply houses it may be more expensive. A half tablespoon to a gallon of water generally is sufficient to remove any dirt that cannot be loosened with mild soap and water alone. A larger amount will injure surfaces on which it is used; trisodium phosphate in strong, hot solutions is used as a paint remover. Hence some authorities are reluctant to advise it for household use because some persons act on the assumption that if a little is good a lot must be better.

Washing soda (also called modified soda) is a mildly alkaline salt combining sodium bicarbonate and sodium carbonate. Two tablespoons to a gallon of water are sufficient. Sal soda (sometimes called washing or soda crystals) contains about 40 percent of sodium carbonate and about 60 percent of chemically combined water. It will liquify at high temperatures or humidity, and is expensive when its high water content is considered.

Borax is a mildly alkaline salt and is not very efficient as a cleaning agent. Four tablespoons to a gallon of water are required.

Ammonia may be bought at a drug store in liquid form which is a solution of the gas in water. If water equal to three times the volume of the strong ammonia water is added to it, the same strength will be obtained as household ammonia. The latter is mostly water and the cloudy appearance usually results from the addition of a small amount of soap; it is an expensive way to buy ammonia for cleaning purposes.

Lye, which commonly is caustic soda, is often used to clean drain pipes. However, to prevent the caustic soda from combining with grease and forming hard soap that will clog the pipes, the pipes must be flushed immediately with plenty of hot water. Lye will also damage the glaze on most vitreous china plumbing fixtures and on enameled iron, even that with an acid-resisting finish. Lye is poisonous and injurious to the skin and must be handled with great care.

Acids

Bisulfate of soda is used in some preparations for removing the deposits that discolor vitreous china toilet bowls and render them unsanitary. Hydrochloric acid also may be used for this purpose in a 10- to 15-percent solution. These are strong acid compounds and like lye are poisonous, and must be kept out of the reach of children. They will injure enameled iron that is not of the acid-resisting type.

Abrasives

Scouring powders and metal polishes owe their effectiveness largely to the action of abrasives. Any abrasive wears down the surface on which it is used, the wear increasing with the amount of pressure applied in rubbing, the type and fineness of the abrasive, and the frequency of application. Consequently, it is well to try first to remove dirt and grease with warm water, soap, trisodium phosphate, or one of the other alkaline salts. Then it is a good rule to start with the finest and mildest abrasives and use a more severe one only when the polishing cannot be accomplished with less drastic action.

The mildness of an abrasive is determined both by the shape of the particles and by their fineness. Some abrasives, such as diatomaceous earth and feldspar, have particles smooth enough in shape to diminish their abrasive action. Diatomaceous earth in a fine grade is well adapted to polishing a soft metal such as silver, while a similarly fine whiting has less abrasive action and takes much longer to do the same polishing job. Such abrasives as volcanic ash, pumicite, and the coarser silicas are much more severe.

Metal polishes on the market combine abrasives with other substances. Thin polishes are wasteful. Silver polishes usually are pastes made with diatomaceous earth, soap, water, and perhaps a little wax, scented oil, and coloring matter. Some metal polishes are made with fine silica, which has sharper particles than diatomaceous earth, combined with such ingredients as water, soap, glycerin, ammonia, oil, or a flammable petroleum product. Sometimes acids are added to loosen the tarnish, and these ruin some metals and will damage most of them unless thoroughly washed off. Since acids cannot be packaged in tin, a polishing compound in a tin container assures freedom from them.

Some manufacturers claim that their polishes can be used on all metals. If they are adapted to cleaning copper and brass, they are generally too abrasive for silver because it is a softer metal. While a silver polish may be used on other metals, it usually takes longer than a polish adapted to the particular metal. Special polishes are made for silver, copper and brass, and pewter. These are the only metals in the home on which polish needs to be used.

Many recipes are in circulation for compounding polishes and similar household supplies in the home, but they do not always give satisfactory results. When the ingredients are bought in small quantities they are likely to be expensive, and some, such as diatomaceous earth, are known by a variety of names and are difficult to obtain in local stores. Abrasives are graded in the wholesale trade by fineness, and the homemaker has no way of knowing whether she is getting as fine an abrasive as is necessary for making polishing compounds.

Scouring powders may be of feldspar sold under a brand name, or the commoner volcanic ash or pumicite. Feldspar in a fine grade is less abrasive to the surfaces of plumbing fixtures and metals than the volcanic-ash preparations. Many scouring powders have soap and an alkaline salt added to the abrasives.

Steel wool is another type of abrasive, consisting of fine strands of steel. The finest is No. 00 and is adapted to cleaning some kitchen utensils. It is often sold with a cake of soap, or as steel wool mixed with soap. When straight steel wool is used, the hands may need protection with old gloves to prevent the fine strands from penetrating the skin. Stainless steel wool does not rust

but is more expensive. Copper and other metal sponges may be used in place of steel wool.

Polishes and waxes Waxes protect floor and furniture finishes and keep them looking well with less time and effort than do other types of polishes. If the wax on the floors is renewed often enough, particularly in the paths of heaviest traffic, the finish remains intact. Since waxes readily mix with dirt and oil, surfaces should be washed before they are rewaxed.

Furniture and floor polishes often contain oil that attracts dirt unless they are thoroughly rubbed off after each application. It is common practice to put polish on a dust cloth and rub it on the furniture, without following with another rub with a clean cloth. Many furniture polishes are mixtures of mineral and sulfated oil in water, mineral oil and citronella (sometimes called lemon oil), or mineral oil and boiled linseed oil. Emulsified polishes contain water, oil, and an emulsifier. Mineral oils have a tendency to "sweat out." When any oil is used on furniture or floors it should be rubbed off as completely as possible.

Self-polishing waxes are emulsions of wax in water. The wax used is mostly carnauba, which makes a tough film. These preparations have great covering power and are inexpensive for frequent application. Manufacturers of linoleum, cork, mastic tile, and rubber floor coverings advise the exclusive use of this type of wax on their products, since the solvents in other types may damage these floor coverings. Self-polishing waxes are also used to some extent on furniture.

Liquid and paste waxes are made for use on both floors and furniture. Paste waxes contain about 20 to 35 percent of wax and give a heavier film, but require more polishing than the liquid products, which have about 10 to 15 percent of wax.

When waxes are used to preserve finishes it is cheaper to buy them in large quantities, for example, a gallon of self-polishing wax for the kitchen linoleum.

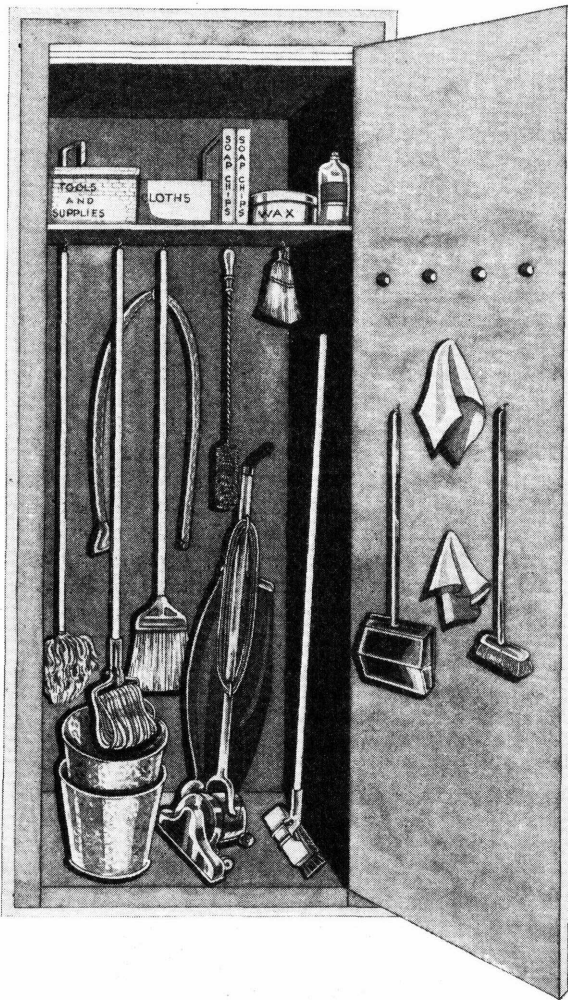
Since waxes must be melted and mixed with flammable turpentine and gasoline, it is hazardous to make these preparations in the home. There are many grades of waxes, and it often is impossible for the homemaker to obtain a satisfactory grade for home compounding.

Other cleaners Denatured or wood alcohol, which is poisonous, is used for cleaning piano keys because it does not yellow them as water does. It may also be used sparingly to rub over scratches on varnished furniture. Dry-cleaning fluid will remove chewing gum, tallow dripped from candles, dirt from lightly soiled upholstery fabrics, wax from polishing brushes, and old coats of wax that have become impregnated with dirt.

Storage of Tools and Supplies

A cleaning closet Ideally, cleaning tools and supplies should be stored together in a special closet designed for them, and sometimes it may also include space for table leaves and for a stepladder. In houses where no such closet was built in, it is often possible to adapt space near the kitchen and with easy access to other parts of the house. For example, a rear entrance hall may have one corner converted into a cleaning closet, or a movable metal cabinet may be bought and placed in an entrance hall or a large closet. Whatever the space there should be hooks high enough to hold brushes, brooms, and mops off the floor, and shelves high enough to hold bottles and jars without wasting space and yet not so deep that the supplies in front have to be moved every time to get at those in the rear.

The tools also should be so arranged that none has to be moved to take another out. Brushes, brooms, and mops should be hung by the handle so weight never rests on the bristles or fibers. The dustpan is hung with the edge toward the wall to avoid denting it. Hand-operated waxing brushes may have the handle removed and be laid with bristles up. If cloths used in waxing are not washed



Every house needs a cleaning closet where tools and supplies are stored ready for use

Note that brooms and brushes hang, rather than rest on their bristles . . . an easy - to - carry basket holds small tools and supplies . . . and holes in the door aid ventilation.

before they are put away, they must be kept in cans to eliminate fire hazards and odors. Carpet sweepers should rest on a side to keep pressure off the bristles. Vacuum cleaners may rest flat on the floor with the hose hung on a wall hook and the attachments laid on a shelf or hung up in a bag made for the purpose.

Dust cloths, mops, and brushes should be put away clean, dry, and ready for use, in order to save time, eliminate odors, and avoid storing dirt. Dusters and wet mops are easy to keep clean and sweet-smelling if they are washed out after each use and dried before storing. It takes only a few minutes to wash them if they are not allowed to become badly soiled. Dirty dust cloths and mops are unpleasant to use and cannot do a good job.

Methods of Cleaning

Cleaning methods may be remembered and their logic understood most easily when they are considered according to the kinds of surfaces to which they are applied. General principles are few and simple, but important.

The home should be kept clean, not made clean heroically at infrequent intervals. Frequent and systematic cleaning reduces immeasurably the ultimate time and energy required, preserves surfaces, and makes the job more interesting and the home a more pleasant place in which to live.

Frequent brushing of walls, woodwork, curtains, draperies, and upholstered furniture postpones the use of soap and water, and takes much less time than washing. Rugs cleaned daily wear longer. Dust and dirt are abrasive; they cut the fibers on rugs and grind off the finishes on floors.

Dirt should always be removed, not scattered from one place to another. A vacuum cleaner is one of the most helpful tools in accomplishing this.

Insects and rodents may get into the best ordered homes. Part of the job of cleaning is to watch for signs of them and bring them under control. Methods for speedy elimination are available in bulletins issued by this Department and by the State colleges of agriculture.

Paint and varnish

It is easier to clean and care for painted, varnished, and lacquered surfaces if the types of finishes in use today are understood. Each coating applied to wood and plastic is only a few thousandths of an inch thick, and repeated washing soon wears it away.

Wall paints may have a base, or binder, of oil or varnish, emulsified resins, casein, or glue. The oil or varnish types have little or no water in them, and they withstand cleaning with soap and water better than the others. The glossier the paint, the more it will withstand cleaning. The emulsified resin type contains water as a thinner, but the dry film becomes insoluble in water and develops satisfactory resistance to cleansing agents. Casein and glue (calcimine) bound paints are thinned with water and remain more or less readily affected by it. Casein paints may be gently washed, but cannot withstand severe scrubbing. Calcimine may be brushed but cannot be washed. White-wash is essentially a mixture of slaked lime and water, and cannot be washed.

Varnish is a solution of resin or film-forming material in a solvent. Shellac is made from exudate of the lac insect dissolved in alcohol. Lacquer is a nitrocellulose solution in organic solvents, usually modified by the addition of resins.

The procedure for washing painted, varnished, or lacquered surfaces is the same whether they are on furniture, wood trim, walls, or floors. Make a light suds with a mild, neutral soap such as that used for fine fabrics. Wash the surface no harder than is necessary to wash off the dirt. Rinse away every trace of soap with clear water, because soapy water leaves a film to catch and hold dirt. Wipe the surface dry with a clean, soft cloth. Use water as sparingly as though it were an expensive cleaning material. Wash only a small area at a time so water will not be left standing on the surface any longer than is absolutely necessary. Floors should never be flooded with water. The best linoleum can soon be ruined if harsh soap or too much water is used on it, and cheap linoleum can be made to wear a long time if the surface is protected.

When painted walls, wood trim, or wood floors are very dirty, it may be necessary to add a little trisodium phosphate, or other alkaline cleansing agent to the soap and water. These alkaline materials never should be used on furniture or on linoleum or similar floor coverings.

Walls and wood trim should be washed from the bottom up. When water runs down on a soiled surface it leaves streaks that are difficult or impossible

to remove. It will not stain a wall that has already been moistened and cleaned.

It is easier to wash and rinse these surfaces with soft sponges than with cloths, because good sponges are more absorbent. Two pails should be used, one for suds and one for rinse water. The water should be changed frequently, for it is impossible to cleanse anything with dirty water.

After painted walls have been washed, a thin coat of ordinary laundry starch may be applied with a paint brush. The next time the wall needs washing, the job is much easier because the dirt washes off with the starch. Any flat finish will have more gloss after it is washed, for it is impossible not to exert some polishing action.

Varnished, shellacked, and lacquered surfaces, as well as linoleum and cork, are preserved and made easier to care for if they are kept waxed. All waxes should be applied in thin coats. Traffic lanes need rewaxing more frequently than other parts of a room. Kitchen linoleum may need a coat of self-polishing wax every 2 weeks where traffic is heaviest, and once a month over the rest of the floor. On other floors, liquid or paste wax should be applied once in 4 to 6 months depending on the wear they get. Liquid wax is easier to use on furniture; finger marks can be rubbed off with a clean cloth and ordinarily the wax needs to be applied only once a year.

Fabric surfaces

Upholstery, window shades, and rugs all may be cleaned in the home by the same method. First, remove all the dust possible with a vacuum cleaner, brush, or if necessary from upholstery and rugs by beating. Make a thick suds of mild, neutral soap, so thick that the pail seems to be full of suds with almost no water. This will help to keep moisture from soaking through the fabric. For upholstery and window shades, apply the suds to a small area at a time with a sponge or with a piece of turkish toweling or other very absorbent cloth. On window shades a soft bristle brush may be used instead of a sponge. Remove every trace of soap with a sponge squeezed in clear water and let window shades dry before rolling. (Window shades are most easily cleaned on a large table.) In cleaning rugs, a Tampico fiber scrub brush with a long handle may be used. Clean a small area at a time. The rinsing will have to be done on the hands and knees with a sponge, and the nap should be brushed along its original flow with a dry cloth.

It is advisable to have rugs cleaned once a year by a good rug cleaner. Every effort should be made to select a thorough and dependable cleaner. When possible several plants should be visited and the procedures observed. There is a great difference in the cleaning services of different companies.

Leather surfaces

Upholstery-leather cleaning is similar to that for fabric surfaces. Use a thick suds of mild, neutral soap with as little water as possible; wipe off all traces of soap with a damp cloth; then dry and polish the surface with a soft, dry cloth. Never use furniture polish, furniture oils, or varnish on leather. Many of these preparations contain solvents that may soften the finish on upholstery leather and cause it to become sticky. A special commercial leather cleaner and preservative is made of water, wax, and alcohol in a thin solution.

Book bindings may be preserved by working animal or vegetable oils (such as lanolin or castor oil) into them with the hands, especially along the back binding. Mineral oil must never be used on book bindings. A commercial preservative compounded on a formula used in large libraries contains purified lanolin, Japan wax, neat's-foot oil, sodium stearate, and water. It is difficult to obtain the special grades of ingredients necessary for compounding these formulas in the home.

Wallpaper

Although many wallpapers are sold as washable, the degree of washability varies considerably even on glossy finished paper and once paper is on the wall, there is no marked difference to distinguish washable from unwashable finishes. Therefore, it is wise to proceed with caution and to remember that the pigments and other materials applied to wallpaper are not impervious to rubbing.

Before attempting to wash any wallpaper, it is important to try suds on a scrap of the paper or in an inconspicuous spot. After determining by test that colors will not run and that the paper is washable, the procedure for washing is much the same as that for fabric surfaces: Apply thick suds with a soft sponge to a small space at a time, rubbing as lightly as possible, and rinse with a sponge squeezed out of clear water. Because paper is always absorbent, it is important to use as little water as possible.

Puttylike wallpaper cleaners are safer than soap and water on most finishes. These are made with water and a high-gluten flour to which salt, soda, coloring matter, and a scent are added. Art gum also may be used. They will remove light soil and sometimes will erase finger marks. Walls need to be brushed before and after their use. Grease spots sometimes may be removed with a paste made of Fuller's earth and cleaning fluid applied to the spot, allowed to dry, and then brushed off. There are several preparations for surfacing wallpapers to keep them from absorbing dirt and grease so readily.

Glass surfaces Windows and mirrors ordinarily can be cleaned with clear warm water. Soap should never be used on them. Four tablespoons of dilute ammonia to a gallon of water helps remove oily dirt that accumulates in some localities. In cold climates vinegar, or ammonia, added to the water prevents freezing, or either a weak alcohol solution or one of the various preparations now on the market for cleaning glass surfaces may be wiped on with a cloth or sponge or sprayed on with an atomizer. In using any fluid containing ammonia or alcohol, care must be taken not to spill the cleaning solution on painted, varnished, or lacquered surfaces.

Chamois may be used for both washing and polishing glass. Dip it in warm water and squeeze it as dry as possible. If the window is very dirty, the chamois may have to be rinsed again before the final polishing. Soft lintless cloths may be used instead of chamois, but with them it takes more time to dry the glass. Rubber squeegees save time and labor in drying windows and are inexpensive. When windows are only dusty, they may be wiped with soft tissue or newspaper. Sometimes moistened newspaper is used to remove dirt before polishing with chamois or dry cloth or paper.

China and enamel surfaces

Vitreous china and enamel surfaces when new have a smooth, glazed finish. The use of coarse abrasives on them develops tiny scratches that make them harder to keep clean. Soap and water often are sufficient cleansing agents. If an abrasive must be used, it is desirable to select a fine one such as feldspar. Yellow stains on vitreous china plumbing fixtures, caused by iron in the water, may be removed by applying an acid, such as hydrochloric, sparingly on the stain and rinsing it thoroughly at once. Trisodium phosphate may be used on nonacid resisting enamel.

When food sticks on enamel cooking utensils, it may be soaked loose with water or by boiling a weak soda solution in them. A feldspar abrasive may be used lightly, but enamelware should not be scraped with sharp-edged instruments or coarse abrasives.

Tile and marble surfaces

Tile, marble, and granite surfaces should be cleaned with soap and water and a mild abrasive used only where necessary. Water on tile should be wiped up immediately or it may loosen the tiles.

Cement may be flushed with clear water, or scrubbed with a trisodium phosphate solution after wetting the surface first with clear water.

Metals Metal surfaces include not only silverware, metal trim, and ornaments about the house, but also the kitchen pots and pans. In general, highly polished metal surfaces require the use of fine abrasives. Less highly burnished surfaces, such as aluminum and iron, may be cleaned with fine steel wool or a feldspar abrasive.

Silver requires more care than any other household metal because sulfur compounds in the air cause it to tarnish readily. If soap is not rinsed off after washing silver, it tarnishes more quickly. Silver bags and chests sometimes are treated with various salts to retard tarnishing. Air should be kept away from stored silver as much as possible in order to reduce the need for frequent polishing.

The easiest and quickest method for removing tarnish is electrolysis, although this does not produce as bright a luster as a good silver polish. By the electrolytic method the tarnish corroding the silver is removed, leaving a mosslike surface that does not reflect light so readily as a smoother surface. The "moss" can be reduced by rubbing the silver as it is dried. If the electrolytic method is used regularly, it may be advisable to use a silver polish about every fourth time the silver is cleaned. In the electrolytic method there is practically no loss of silver, whereas with polishes a small amount of the surface is rubbed or abraded away. In time this abrading action may be serious with some plated ware. Electrolysis cannot be used on silver where oxidation (the dark indented portions) is part of the beauty of the design because it removes the oxidation. Also, ware with hollow handles attached with cement may be ruined by this method because the hot water may dissolve or loosen the cement.

For cleaning silver by the electrolytic method, fill an aluminum vessel with hot water, or use an enamel pan with a sheet of aluminum or zinc in the bottom. An aluminum pan will be corroded in the process, so unless an old vessel that is no longer used for cooking or a very heavy cast aluminum vessel is available, it is better to use an enamel pan and aluminum sheet. The aluminum needs to be cleaned by boiling in a weak vinegar solution to keep it bright and active.

Add to the hot water in the vessel a teaspoon of salt and a teaspoon of baking soda for each quart of water. Bring the water to a boil and drop in the pieces of silver. If the water is kept boiling, the silver will be brighter. In a few seconds, the time depending upon the degree of tarnish, the silver will be bright. It must then be washed in soapy water, rinsed, and polished with a soft, dry cloth.

Silver polishes on the market vary in their abrasiveness. Quick-acting polishes usually are the most abrasive. It is well to observe carefully how much a polish scratches the silver, and adopt one that seems to scratch it the least. Hard pressure in rubbing will increase abrasive action. Silver pastes should be applied with a soft cloth or brush, thoroughly washed off with soap and water after the tarnish has been removed, and the silver carefully rinsed and dried.

Chromium plating used on modern plumbing fittings and metal dishes is one of the easiest metals to keep clean and stainless; it requires only frequent wiping with a damp cloth or washing with soap and water. The plating is very thin and an abrasive soon will wear it away. Some metal polishes may damage it, and none should be used.

Nickel, stainless steel, and nickel-copper alloy may be kept in good condition with soap and water. If they become dull and need polishing, a light rubbing with a feldspar cleaner will restore the finish. Coarser abrasives damage all these surfaces, and soon wear through thin nickel plating on the older type

of plumbing fittings. Some metal polishes contain materials that discolor the nickel-copper alloy.

Copper and brass utensils and ornaments may be polished with a product made for the purpose, or with salt on a piece of lemon. The salt and lemon will remove the tarnish but they must be rinsed off completely. Some polishes contain wax, which may prevent these metals from tarnishing again quite so readily.

Pewter is a soft metal and should be polished only with a fine powder or with a product made for this purpose. Silver polish will keep it bright if used regularly.

Zinc, the coating on galvanized-iron water, scrub, and garbage pails, may be cleaned with soap and water and a volcanic ash or similar abrasive. Feldspar is not quite abrasive enough.

Tin cooking utensils discolor with use and it is unwise to try to keep them bright. The foundation of these utensils is iron and the tin coating is relatively thin. When it is scratched off, the utensil will rust. Burnt-on food stains may be removed by rubbing gently with feldspar powder, or by heating for a few minutes in a weak soda solution and then washing thoroughly with soap and water.

Aluminum and iron utensils may be kept clean and stainless with steel wool or feldspar powder. Strong soaps and scouring powders that contain alkaline salts discolor aluminum and should not be used. Discoloration on aluminum may be removed by boiling it in water to which vinegar or cream of tartar has been added. Rust on iron may be removed with steel wool. If iron utensils that are not used very often are dried thoroughly and oiled lightly with mineral oil, rust will be prevented from forming again.

Refrigerators and sanitary. Refrigerators must be cleaned every week to keep them sweet and sanitary. As soon as anything is spilled in a refrigerator it should of course be wiped up immediately.

Mechanical refrigerators require periodic defrosting of the freezing unit because moisture from the air and from foods is drawn to the unit. Some manufacturers recommend defrosting every 2 weeks, but this may not be often enough in humid climates or during summer weather. Immediately after the refrigerator has been defrosted, the food may be removed, the shelves taken out and washed in suds to which a little mild alkali may be added, and the interior including the evaporator should be washed thoroughly with the same suds. Both shelves and interior should be rinsed with clear water until all traces of soap are removed, and wiped dry. If the interior is free from spots where food has been spilled, it may be washed with clear warm water in which soda has been dissolved. The use of soda or other equally mild alkali helps to remove odors.

Ice refrigerators may be cleaned when the ice supply is low. Even if the ice is always washed off before it is placed in the refrigerator, the ice compartment and pipes need to be cleaned thoroughly at least once a week. The procedure for the interior is the same as that for mechanical refrigerators. In addition, the drain pipe must be detached, washed carefully to remove the slime in which organisms thrive, the drain trap washed, and the pipe itself scalded.

Stoves Stoves should be wiped after each meal. They also need careful cleaning every week, or they become so caked with soot and grease that it is impossible to restore them to their original condition.

Gas and electric stoves usually are finished with enamel, which is easily kept clean with a cloth wrung out of soapy water. Since enamel is a glasslike coating, the stove must not be wiped with a cold wet cloth while it is hot or the coating may crack. Abrasives roughen the enamel and metal trim, and their use will not be necessary if the stove is wiped after each meal, and if food that boils over is wiped up immediately. In modern stoves many parts are detachable. These

should be removed first and washed. Trisodium phosphate may help to remove stubborn spots. If some abrasive must be used, it should be fine like feldspar. Wiping cast-iron gas burners and oven racks with light mineral oil or kerosene may help to keep them from rusting.

When food is spilled on an electric heating element, it should be allowed to char and then be brushed off. The charring may be done while cooking over the burner, to save electricity.

Coal and wood ranges need to have ashes emptied every day. Soot must be brushed from the bottom of the lids and from the inside of the fuel box each week. About once a month the flues should be cleaned, especially those over and under the oven, so the heat will circulate satisfactorily. The outside of the stove and oven should have grease washed off with soap and water and when cold should be rubbed with a cloth moistened in kerosene or light lubricating oil. Stove blacking gives a higher polish, but it should be used sparingly and rubbed off well; otherwise it will blacken the bottom of pans.

Kerosene and gasoline stoves, in addition to regular washing with soap and water, need to have the wicks cleaned and the fuel tank drained and cleaned. Wicks should be wiped off once a day. To do this remove the chimney, outside collar, and flame spreader, turn the wick even with the top of the wick tube and wipe it from the center outward until the charred edge is removed. After the fuel tank is removed uneven wicks may be burned down and then wiped off. Loose threads may be clipped with scissors, which should not be used for other trimming. If the wick has a beveled edge, this may be maintained by the way the wick is wiped. Fuel tanks usually need to be drained and cleaned every 3 months, and oftener if water gets into the fuel and causes the flame to sputter. The fuel tank is tipped back, the cap removed from the fuel line, the stove tipped to drain out the fuel, and the pipe cleaned with a stiff wire. It is then washed out with a little clean fuel.

Lighting fixtures

Lighting fixtures need frequent cleaning or the light they are intended to provide is seriously diminished. They should be dusted frequently. Electric light bulbs, diffusion bowls on semi-indirect and indirect fixtures, and portable bowls should be dusted weekly and washed once a month. Cloth or similar types of shades need a regular rubbing off with cleaning fluid.

Kerosene lamps should have the chimneys washed daily and char rubbed off the wicks. Glass shades should be dusted daily and washed once a month or oftener.

Cleaning a room

Daily cleaning consists chiefly of dusting. In bedrooms, the beds, which have been airing while the family was at breakfast, are made first. Then in all rooms inside sills may be dusted, then furniture, wood floors, and finally rugs are cleaned. If a broom is used, upholstered furniture is brushed first and covered, then rugs swept, and finally floors, woodwork, and furniture dusted.

Weekly cleaning follows the same general procedure but is more thorough. Pictures and mirrors, light bulbs and lighting fixtures, closet floors, backs of furniture, and window shades and venetian blinds are dusted. Baseboards are brushed, and if much dirt has blown in it may be advisable to wipe the floor and baseboard with a damp cloth. Furniture should be moved so that every inch of the floor is cleaned. Every other week upholstered furniture is cleaned with a vacuum cleaner if possible. Mattresses are turned side for side one week and end for end the next. Light bulbs, enclosing globes, and diffusing bowls and shades in a few rooms are cleaned each week so that all are included once a month. The brushing of walls, wood trim, and draperies, and washing of windows, mirrors, and pictures may be rotated in the same manner.

Thorough cleaning is more like the old-fashioned house-cleaning procedure. Some homemakers may find it easier to do a little along with the weekly cleaning; others may prefer to use the following procedure with one room each month.

Take down the curtains and draperies, brush them if they do not need washing, and lay them in another room. Remove window shades and brush them, or brush venetian blinds and wipe them when necessary.

Brush the radiator. If there is a register, lift it out and brush it on a newspaper; clean the screen and the pipe. If the register needs washing, wipe it off with kerosene and dry it thoroughly with a clean cloth.

Remove the pictures. Brush the walls with a wall brush, beginning at the bottom and working up toward the ceiling, brushing it last. Dust hangs down and by lifting it up with the brush it will not be rubbed in and smear the walls. The wood trim may be brushed as one comes to it in cleaning the walls.

Clean the closet, removing everything, brushing the walls and wood trim, and wiping the shelves and floor.

Dust picture frames. Wash the glasses over pictures, the mirrors, and windows. Wipe light bulbs, enclosing and diffusing bowls with damp cloth and brush lamp shades.

Remove things from drawers and wipe them out; replace, or dust and turn the paper linings.

Dust and polish furniture. If the furniture is very dusty, another cloth should be used for polishing; waxed furniture will need only rubbing unless it is time to wash it and give it the yearly coat of fresh wax.

Turn the rug back and wipe under it. Clean the under side of the rug as well as the upper. Underlays may be cleaned on both sides with a vacuum cleaner, detaching the belt that revolves the brush if the cleaner has a brush; the brush will tear up the loose fibers. After the rug and floors are cleaned, place the furniture in order and hang the curtains and pictures.

In cleaning a bedroom the mattress and box springs should be brushed or vacuum cleaned, and the bed made before the furniture is dusted. If a broom is used instead of a vacuum cleaner or carpet sweeper, the furniture should be dusted and polished last.

In cleaning a room as well as any of the other jobs of house cleaning, the purpose of spending time to experiment with systematic work schedules and better methods is to increase leisure, relieve the mind of worry caused by the pressure of things to be done, and create a more restful, pleasant home. The homemaker with a schedule and sound methods is better equipped not only to do the work at hand, but to teach and guide her assistants, whether they be members of the family or paid employees. The objective is to make the job more interesting and less fatiguing by controlling it, rather than letting it control her.